SUMMARY OF THE
U.S. NUCLEAR REGULATORY COMMISSION / U.S. DEPARTMENT OF ENERGY
QUARTERLY MANAGEMENT MEETING
IN ROCKVILLE, MARYLAND
MARCH 21, 2006

Introduction

The U.S. Nuclear Regulatory Commission (NRC) and U.S. Department of Energy (DOE) held a public Quarterly Management Meeting on March 21, 2006. The meeting was hosted at the NRC Headquarters in Rockville, Maryland, with video connections at the Center for Nuclear Waste Regulatory Analyses (CNWRA) in San Antonio, Texas, the NRC Region IV in Arlington, Texas, and the DOE offices in Las Vegas, Nevada. Teleconference connections were also made available to interested stakeholders. The agenda for this meeting can be found in Enclosure 1. Participants included representatives of the NRC, DOE, the State of Nevada, Affected Units of Local Government, Nuclear Energy Institute, other industry representatives, the press, and interested members of the public. Enclosure 2 contains the list of attendees who were present at the above noted locations.

The purpose of this meeting was to discuss the overall progress of the Yucca Mountain Project (Project) at the proposed geologic repository site at Yucca Mountain (YM), Nevada. The discussions focused on an update of the NRC high-level waste program, the DOE high-level waste program, and the Project activities. The status of the action items from the past meetings, and new action items resulted from this meeting were also discussed.

Opening Remarks

Mr. Thomas Matula, Office of Nuclear Material Safety and Safeguards, NRC, started the meeting by welcoming DOE management and staff, members of the public, and all other stakeholders. He stated this meeting was open to the public for observation and that the public would have an opportunity to make public comments.

Mr. Martin Virgilio, Deputy Executive Director for Materials, Research, State, and Compliance Programs, NRC, welcomed all those in the Project to the NRC.

Mr. Jack Strosnider, Director of NRC's Office of Nuclear Material Safety and Safeguards, stated that NRC acknowledges DOE's October 25, 2005, press release in which it announced a "new path forward that will provide clear direction to improve safety and reliability as well as reduce programmatic risk." In that press release, DOE discussed its revised approach to improve operation of the planned surface facilities at YM by operating primarily as a non-contaminated or clean set of facilities. Mr. Strosnider emphasized that NRC staff believes that with such changes in design it is even more important for DOE to continue to actively engage the NRC staff at public Management Meetings and Technical Exchanges to address technical and regulatory issues relevant to DOE's developing a high-quality license application (LA).

Mr. Strosnider provided an update on revisions to 10 CFR Part 63 regulations regarding the 10,000-year compliance period. He said that on August 22, 2005, the U.S. Environmental Protection Agency (EPA) proposed a revision to the public health and environmental radiation protection standards for YM and that EPA's goal is to complete a final revised standard for YM by the end of 2006 calendar year. The NRC staff will recommend final regulations to the Commission for adoption shortly after EPA finalizes its revised YM standards.

NRC Program Update

Mr. William Reamer, NRC's Director of the Division of High-Level Waste Repository Safety, stated that NRC believes it is important for DOE to understand the level of design detail necessary to adequately demonstrate safety at the proposed geologic repository at YM and urged DOE to identify areas under NRC regulations where DOE is not clear on the level of detail of information that will be needed. When DOE is ready, NRC staff encourages DOE to schedule Technical Exchanges to ensure that issues are identified and resolved early. The NRC continues to provide feedback to DOE on technical issues including its comments regarding the methodology DOE proposes to use to evaluate the seismic hazards to preclosure facilities and its feedback to DOE on DOE's frequency analysis of aircraft hazards. The NRC staff is currently developing internal guidance on a variety of technical issues, such as Pre-Closure Safety Analysis, to enhance what is already contained in the Yucca Mountain Review Plan.

Mr. Reamer said that NRC staff is aware that DOE is addressing issues regarding design control and requirements flow-down, as well as assessing its corrective action and trending programs. To prepare for this meeting today, NRC held focused On-site Representative interactions, under Appendix 7 of the NRC/DOE Memorandum of Agreement, on these subjects to understand the status of these areas. These interactions are to provide prompt information to support NRC management decisions concerning the DOE Project status and issues that may affect the LA quality. NRC has observed progress, or planned actions, that are intended by DOE to improve design control and the requirements management process.

In December 2005, NRC observed a DOE audit on the adequacy, implementation, and effectiveness of the corrective action program. The DOE audit team concluded that the overall corrective action process was not effective because an important attribute of the process, the Trend Program, was not implemented. NRC staff is aware that a self-assessment of the corrective action program is in progress to evaluate the causes of the corrective action program effectiveness issues. NRC staff plans to have a special management meeting with DOE on the corrective action program in the near future.

Mr. Reamer noted that DOE issued a technical evaluation report entitled "Evaluation of Technical Impacts on the Yucca Mountain Project Technical Basis Resulting from Issues Raised by Emails of Former Project Participants." The NRC staff is reviewing the report to determine if the information would cause staff to reassess any past activity such as NRC staff acceptance of DOE Key Technical Issue (KTI) agreement responses regarding uncertainty of net infiltration

during modern and future climates. The NRC expects appropriately qualified information will be provided by DOE to support its LA and NRC takes very seriously any significant DOE programmatic lack of adherence to quality assurance where public health and safety is concerned. NRC staff is awaiting DOE's reports on the extent of condition and corrective action plans and is planning a Technical Exchange on the report.

In January 2006 NRC issued an Observation Audit Report on a Bechtel SAIC Company, LLC (BSC), audit in August 2005. The BSC audit team assessed the effectiveness and implementation of the quality assurance program requirements applicable to scientific investigations supporting the waste package and drip shield degradation models. The NRC observers identified several issues regarding the BSC audit team's conclusions. NRC requested a response to the Audit Observation Inquiries (AOI) identified in the Observation Audit Report and understands that DOE is reviewing these issues, and expressed interest in hearing during this meeting the status of DOE's review and any findings identified and conclusions drawn.

DOE Program Update

Mr. Paul Golan, Acting Director, Office of Civilian Radioactive Waste Management (OCRWM), provided an update on the OCRWM program activities. He noted that the budget request for Fiscal Year 2007 was $544.5 million ($160 million from the waste fund and $388 million from defense). DOE will use the clean canister approach and rework the pre- and postclosure analyses for the LA. Given the new approach, DOE will not complete the LA in 2007. After Critical Decision (CD)-1, documenting the new design is approved and baselined, DOE will be able to share the licensing schedule with the NRC, hopefully in the June/July timeframe.

DOE has issued the report documenting the investigation of the U.S. Geological Survey (USGS) e-mail issue. The investigation concluded that quality assurance requirements were not met. Consequently, the DOE has Sandia National Laboratories (SNL) redoing the analysis of infiltration. The new analysis will then be reviewed by independent technical experts to verify that quality assurance requirements are met. In addition, Idaho National Laboratory has the USGS code and will run the code to verify reproducibility of the results. DOE also plans to create a University consortium to provide independent reviews for the program.

The draft Environmental Impact Statement for transportation is scheduled to be completed in the summer of 2006.

DOE is evaluating the January 6, 2006, letter from the NRC on the audit of Lawrence Livermore National Laboratory (LLNL) in August of 2005 and will share the results of the evaluation when it is complete.

SNL has been designated as the Lead Laboratory, based on their expertise and experience, especially their work at the Waste Isolation Pilot Plant. As Lead Lab, SNL will be responsible for management of the scientific and technical work that supports the postclosure portion of the LA. They will report to the OCRWM Chief Scientist. The transition of work to SNL should be complete by the end of the calendar year.

The OCRWM has announced that it will be reorganizing the federal workforce based on single point accountability. The organization is flat with thirteen direct reports. Interdependent organization makes managers more accountable not only to the Director, but also to each other. Position descriptions should be complete in the next few weeks. There are no plans for geographical relocations, down grades, or downsizing.

DOE has the authority in place to extend the BSC contract for two years and should make a decision on the terms and conditions of the contract by the end of March.

Mr. Reamer noted that the program is facing an extraordinary challenge. Secretary Bodman has stated that the program is broken. Does OCRWM have full support to be successful? Paul Golan said the program has full support of the Secretary and the Under Secretary. DOE is planning a safer, more reliable, and simpler design.

Mr. Jack Strosnider asked when DOE will know that the nuclear culture is in place. Mr. Golan responded that there are a number of indicators of a strong nuclear culture, including: solving the problem only once, early diagnosis of problems, and prompt reporting.

DOE Project Update

Mr. Arthur focused on the following areas: 1) corrective action program (CAP) 2) NRC audit observations; 3) requirements management; and 4) safety enhancements at the site.

Corrective Action Program: In December 2005, the DOE, Office of Quality Assurance (OQA) conducted an audit of the CAP implemented by BSC. The audit evaluated the adequacy of the CAP, implementation of the revised trending procedure, and actions initiated to resolve open conditions adverse to quality related to trending. The audit team concluded that although issues were being identified, managers were not effectively using the trend program to identify, address and resolve repetitive issues. As a result, the audit team concluded that the overall CAP was ineffective. The NRC staff observers agreed with the audit team conclusions and indicated that the audit team performed effectively. There were no NRC AOIs initiated during the audit.

In January of this year, DOE initiated a self-assessment to evaluate the effectiveness of the CAP within OCRWM. The self-assessment team, assisted by outside expertise from industry, evaluated the Project performance compared to supporting management behaviors and the behavior attributes outlined in the August 2005 Institute of Nuclear Power Operations (INPO) *Guidelines for Performance Improvements at Nuclear Power Stations, 05-005.* The self-assessment was completed in February 2006.

The self assessment report identifies several ways to improve the overall organizational performance of the CAP and noted a few areas of excellence (e.g., CAP is recognized as a core business tool, use of a five-day planning meeting, task assignment to knowledgeable persons, and action tracking across the organizations). The assessment is based on eighty-six interviews

at various levels of the organization. In addition, using comparative timelines, the self-assessment evaluated recent issues to identify any missed opportunities and why these issues were not self-identified or resolved before they progressed into more significant issues. Some of the conclusions in the report are:

- Line organizations are not efficiently utilizing the CAP. They are focusing on condition report closure versus using the CAP to trend, analyze and correct issues captured in condition reports to improve organizational performance;
- While there are some examples of excellence, line management's participation in CAP is not uniform. Line management typically becomes involved in condition report closure when a condition report is late;
- Little evidence to show that the line organizations are using performance monitoring tools (e.g., benchmarking, behavioral observations, effectiveness reviews, performance indicators, and independent oversight) to verify issue resolution and recurrence prevention;
- There is reluctance within organizations to submit condition reports (CRs) due to perceived negative consequences (impacts to the contractor fee, impacts to and between organizations, and challenges with the CAP software).

DOE and BSC senior management are reviewing the recommendations made as a result of this assessment to ensure that appropriate actions and process improvements are identified. A detailed Action Plan will be available in the next few weeks that outlines the path forward for the CAP. DOE looks forward to a Management Meeting with NRC on the results of the CAP Self Assessment in the near future.

- In February, DOE initiated an Issues and Trending Review group with participation of senior managers from both DOE and BSC. The purpose of this group is to review Project wide issues or recurring issues and identifies any related trends. The group will evaluate actions that are being taken to ensure the actions underway are appropriate to correct the issues.

DOE currently uses a performance measure to identify potential recurring conditions through the review of CRs and Employee Concerns Program (ECP) data by event codes. On a monthly basis, managers will review recurring conditions by event code, determine if a potential recurring condition exists, and take actions as necessary.

DOE received NRC's letter of January 9, 2006, on NRC's observation of the BSC quality assurance audit on Scientific Investigation, Waste Package and Drip Shield Degradation, conducted August 15 – 31, 2005. This letter identifies several AOIs. These issues represent a potentially serious condition and DOE is aggressively undertaking a number of actions to address them, including evaluating the effectiveness of the following areas:

1. Audit process;
2. DOE and BSC communications;
3. Technical calibrations issue;
4. QA requirements for calibration.

Requirements Management: The Project has not systematically maintained the requirements management system, resulting in potential inadequacies in the design control process. Recognizing the complexity of this issue, DOE has convened an integrated product team and centralized the Office of Repository Development authority for matters related to requirements management issues. Under the authority of that Team, DOE suspended BSC's authority to approve quality affecting work in Design and Engineering and Preclosure Safety Assessment. Remedial actions that are needed to lift the suspension are well underway, including: re-establishment of technical requirements baseline; verification of processes to procedurally maintain flow down requirements to implementing documents; completion of a DOE audit of those BSC procedures to ensure compliance with the Quality Assurance Requirements and Description (QARD). Pending the outcome of DOE's audit, the suspension may be lifted.

Long term actions to prevent recurrence center on clarifying DOE expectations for systems engineering, configuration management, and requirements management. Key program documents defining these requirements will be contractually imposed on BSC. The documents will require a rigorous approach to systems engineering, configuration management and requirements management appropriate to the needs of the program. DOE expects these documents to be completed by the end of March. After providing the organization time to develop and implement procedures that comply with these requirements, DOE will follow-up with compliance assessments in September of 2006.

The design control process that will be the basis for the LA is in place and is intended to be compliant with QARD. Pending Departmental approval of the CD-1 package, DOE will complete a readiness review of BSC's design processes prior to authorizing BSC to begin preliminary design. This readiness review is scheduled to be completed in early May 2006. DOE expects that these actions will correct the identified problems in requirements management and ensure the integrity of design control.

Safety Enhancements: In closing, Mr. Arthur noted that the Project is completing some site underground safety enhancements at the site, including preventative maintenance on power centers, underground fire detection and protection systems, underground lighting and ventilation and new site equipment.

Mr. Elmo Collins asked if the CAP Self Assessment included a causal analysis and how will DOE ensure that the problem is resolved. Mr. Arthur reported that causal analysis was completed. Mr. Ted Feigenbaum noted that increased management involvement will help prevent recurrence. In response to a question from Mr. Reamer, Mr. Arthur noted that DOE expects to be able to provide the NRC with responses to the AOIs from the LLNL audit in late April or early May.

Licensing Update

Mr. Mark Williams, Director, Office of Licensing and Strategy (DOE) provided an update of ongoing activities including a discussion of the Licensing Support Network (LSN), aircraft hazards analysis, design control, audit observation report OAR-05-05, level of design detail, Peña Blanca Appendix 7 Meeting, and future interactions.

With regards to the LSN, Mr. Williams noted that DOE continues to process new documents for LSN. Up to 3.35 million documents were crawled by NRC, up from 2.1 million in June 2004. Approximately one million documents are publicly available and 15,000 new documents are added each month. DOE will certify LSN not less than 6 months prior to LA submittal.

Mr. Williams described the current issues related to aircraft hazards analysis as consideration for flight restrictions, credit for pilot actions, frequency analysis updates, and DOE request for NRC reports. As part of the path forward, DOE intends to show that aircraft crash is not a credible hazard. Also, DOE continues to work with US Air Force on flight restrictions and plans to take no credit for pilot actions in analyses. DOE will re-visit the need for NRC reports and the updated frequency analysis will be provided to NRC after CD-1.

With respect to the timing of implementation of design control process for CD-1, DOE continues to implement design control and plans to conduct a validation review of the process in April 2006. The OCRWM is managing development of CD-1 in accordance with DOE requirements. After the CD-1, potential changes to the repository design will be identified and the baseline will be updated to incorporate design changes which will be managed under design control procedures.

The NRC identified 5 technical AOIs and 2 technical weaknesses in the January 9, 2006 Observation Audit Report. These included:

- AOI-1: Drift Scale Thermal Hydrologic Chemical Seepage Analysis Model Report;
- AOI-2: Analysis of Dust Deliquescence for Features, Events, and Processes Screening;
- AOI-3: Inconsistencies for Overall Localized Corrosion Modeling;
- AOI-4: Referencing Cancelled Documents; and
- AOI-5: Use of Viasala Humidity Probes at Temperatures Outside Their Calibrated Range.
- Weakness-1: Reduction in scope of audit and timely availability of audit checklists.
- Weakness-2: Lack of participation of technical specialists in the audit.

Mr. Williams noted that DOE initiated condition reports to document issues raised by the NRC in their report. Also, as part of the path forward, a single management board (DOE/BSC) oversees and integrates issues raised from this event and an independent review team has been commissioned by the Acting Director. DOE intends to provide briefings of the status to NRC On-site Representatives and is preparing a response for the AOIs and technical weaknesses identified by the NRC.

Regarding the history of the level of design issue, DOE has reviewed previous feedback from NRC to capture issues on level of design detail. This included a review of the NRC letters dated December 2003 and October 2005 and the summaries from a series of technical exchanges from November 2002 through July 2005. Much of the feedback has been or will be incorporated into the draft LA as design and analysis are completed. Issues for further discussion with NRC staff include:

- Demonstration of reliability of passive Important to Safety (ITS) structures, systems, and components (SSC);
- Design information for Transportation, Aging and Disposal (TAD) canisters, (previously site-specific casks);
- Utilization of precedent for natural initiating events under 10 CFR 63.102(f);
- Uncertainties and margins for Preclosure Safety Analysis (PCSA);
- Consideration of human reliability.

Mr. Williams introduced two items for future detailed discussion: demonstration of achieving reliability requirements for active ITS SSCs, and preclosure seismic safety strategy and noted that design details for the ITS SSCs including ventilation and instrumentation diagrams, process and instrumentation diagrams, electrical one lines, logic diagrams, and schematic/block diagrams will be enhanced. Also, analyses will be performed to demonstrate that reliability requirements for active ITS SSCs are met. As part of this analysis, DOE will collect industry data on similar systems (e.g., cranes); and/or perform fault tree modeling on the design. The level of detail will be similar to level of detail as previously developed for the ventilation system – this subject will be discussed during a future technical exchange.

On the topic of seismic safety strategy and in reference to January 24, 2006 NRC letter, Mr. Williams noted that DOE understands that the letter is limited to seismically initiated events and DOE believes that the combination of the Seismic Margin Analysis (SMA) approach and probabilistic seismic analysis will demonstrate compliance with regulations. In consideration of NRC's January 24, 2006, letter, DOE will augment seismic margin analysis with probabilistic seismic analyses consisting of development of the site- specific seismic hazard function, development of seismic event trees, performance of fragility analyses of SSCs, and performance of convolution analyses. The objective of the probabilistic seismic analysis is to demonstrate that the annual probability of seismically initiated event sequences having potential doses that exceed Category 2 limits is less than 1 in 10,000 during the preclosure period. The approach is consistent with American Society of Civil Engineers Standard 43-05, Seismic Design Criteria for Structures, Systems, and Components in Nuclear Facilities and the SSCs will be redesigned if convolution analysis does not confirm required seismic performance.

Also, Mr. Williams provided a briefing on the Peña Blanca Appendix 7 meeting (2/16/06). The purpose of the meeting was to discuss data and models related to movement of groundwater through unsaturated tuff from a uranium deposit. Studies at the site provide valuable insights in support of TSPA models for radionuclide transport. The meeting provided productive interchange of data and opportunity to coordinate additional planning for field work and sample collection in June 2006.

Mr. Williams proposed future interactions related to programmatic and technical issues, including:

- Corrective Action Program;
- Evaluation of issues raised by E-mails of former Project participants;
- CD-1 Process and Status;

- Demonstration of achieving reliability requirements for active ITS SSCs;
- Preclosure Seismic Safety Strategy;
- Demonstration of reliability of passive ITS SSCs;
- Utilization of precedent for natural initiating events under 10 CFR 63.102(f);
- Uncertainties and margins for PCSA;
- Consideration of human reliability;
- Aircraft Hazards Analysis;
- Design Information for Transportation Aging and Disposal canisters.

Mr. Martin Virgilio (NRC) noted that he appreciated the discussion on the CD-1 process, NRC is interested in how the CD-1 will impact the existing KTI's, and proposed grouping of KTIs in three bins: the remaining 29 KTIs, some of which are related to infiltration issue and require additional information for the NRC staff to complete their review as "bin one," the KTI issues that have been reviewed by the NRC and are considered closed for the time being as "bin two," and any new KTIs resulting from the impact of CD-1 as "bin three." DOE indicated the impact of CD-1 on KTIs will be evaluated. The NRC was also interested in a better understanding of the CD process (i.e., CD-1, CD-2, CD-3, and CD-4) and asked at what CD level the Project will be at the time of LA submittal. DOE explained the four CD levels as the work leading to site characterization, design and procurement, construction authorization, and operation. The design for LA submittal is expected to be between CD-2 and CD-3.

The NRC was in agreement with the list of interactions proposed by Mr. Williams. Mr. Collins commented that it would be most productive if technical exchanges are focused on specific elements of PCSA so that there will be a better understanding of the level of detail for the LA.

Design Update

Mr. Paul Harrington, Acting Director, Office of Project Management and Engineering (DOE) presented an update of the design and engineering topics including details of CD-1 revision process, potential features of revised design approach, preclosure safety analysis impacts, and independent engineering study.

Mr. Harrington noted that on October 25, 2005, DOE directed the development of a revised CD-1 package, including a Conceptual Design Report, for selection of preferred alternative and range cost estimates for canister-based waste handling. As part of the implementation of the canister-based approach, commercial spent nuclear fuel (CSNF) generally would be sent to the repository in a TAD canister. The CSNF would not require repetitive handling prior to disposal and the canister handling would result in cleaner facilities. Also, on February 14, 2006, DOE selected a recommended configuration to be developed in the CD-1 revision package which includes a modular, flexible configuration in which 90% of CSNF is received in TADs and 10% of CSNF waste stream as uncanistered SNF assemblies. This configuration adds dedicated facilities for receipt and waste package (WP) closure. The CD-1 package being developed includes: a conceptual design report, preliminary hazard analysis, risk assessment, Project

execution plan, and cost and schedule information. Mr. Harrington added that until Energy Systems Acquisition Advisory Board (ESAAB) review and approval, anticipated in May 2006, this information is preliminary. Following ESAAB approval, design development and updates to preclosure and postclosure safety analyses to support LA will be performed.

Revised sets of surface facilities include: the receipt and handling facilities for uncanistered CSNF assembly handling performed in pools; canister handling generally performed with local shielding; waste packages to include shield plugs to support local access during WP closure operations; and deletion of separate site rail system and associated transportation cask transfers. Subsurface layout remains unchanged. Mr. Harrington noted the potential effects of CD-1 on preclosure safety analysis including a reduction or elimination of Category 1 event sequences due to reduction of number of uncanistered CSNF assembly lifts and a reduction of the consequences of uncanistered CSNF drops due to confinement provided by the pool. Category 2 event sequences will likely be little changed, and ITS classification is still expected for structures, lifting/handling equipment, electrical power, and ventilation systems.

In addition, Mr. Harrington noted that an independent engineering study was performed that will be evaluated through Value Engineering studies during preliminary design development. Two similarities to the design recommended by BSC are wet handling of uncanistered CSNF assemblies and the use of local shielding for canister handling. The differences are mainly in the equipment for handling of canisters and potential for underground aging. In summary, Mr. Harrington noted that the canister-based design will simplify waste handling with the greatest changes in surface facilities and less in subsurface and waste packages with minimized event sequences likely due to reduced consequences.

DOE responded to several design specific questions and comments by the NRC staff regarding any new issues introduced by TAD and measures taken for criticality control. Mr. Lawrence Kokajko noted that the concept of underground aging was intriguing and asked DOE to inform the NRC if DOE chooses that design option. NRC asked if CD-1 addresses the currently loaded casks at other nuclear facilities and utilities. DOE noted that specifications will be developed for such cases and the technical bases to meet those specifications will be evaluated.

Quality Assurance Program Update

Mr. Michael Ulshafer, Acting Director, OQA, discussed the current Quality Assurance resources and plans for augmentation of the QA organization to support audits and surveillances of current and future activities at the Project. Currently, the OQA is in transition from federal/contractor staffing to a more accountable federal staff. Historically, activities and responsibilities undertaken by the OQA were accomplished by a combination of federal staff with assistance from a support contractor. DOE is currently in the process of hiring an additional 12 federal staff (6 senior staff and 6 intermediate level staff). The final option year of the support contractor has been extended to ensure a smooth transition and maintain effectiveness of the OQA organization while hiring and integrating these new federal staff. As part of the transition, DOE will have:

- developed a mentoring program to assist intermediate level positions in integrating into the Office of Quality Assurance;
- realigned quality engineering roles and responsibilities to enhance oversight activities;
- requested an independent evaluation of the quality assurance organization undertaken by the Nuclear Energy Institute;
- ensured continued improvement in line ownership of quality assurance with more critical self evaluation;
- acquired OQA membership on Nuclear Quality Management Leadership committee;
- initiated a program to rotate external personnel into the OQA for cross training (line, industry, EM, Navy);
- employed organizational enhancements for audits:
  - enhanced planning;
  - resource loaded schedule;
  - audits suggested by line, quality engineers, and technical specialists;
  - use of Institute of Nuclear Power Operations databases/guidance.

Mr. Ulshafer then provided the status of hiring new staff and noted that when fully staffed, the OQA should consist of two teams with 13 persons in the Quality Assessments group and 10 persons in the Quality Systems and Engineering group.

A discussion of the infiltration surveillance and audit was provided next. The surveillance was completed the week of March 6, 2006, and reviewed activities associated with the infiltration model such as training and qualification, procurement, software control, etc. No issues were identified. The NRC staff observed the audit and indicated they had no Audit Observation Inquiries. Also, an audit of the infiltration model is currently scheduled for the week of April 24, 2006, although it may be delayed depending on the availability of products for the technical specialists to review. The audit is currently planned to include technical specialists in the areas of hydrology, infiltration, and computer modeling.

Mr. Ulshafer then provided a briefing on the procedure adequacy audit. He noted that the audit was performed the week of March 13, 2006. The scope of the audit was to evaluate the adequacy of flow down of QARD requirements into implementing procedures, adequacy of the processes described in the procedures that implement QARD requirements, and the effectiveness of corrective actions for previous Condition Reports.

Also, an audit of Los Alamos National Laboratory/SNL/Lawrence Berkeley National Laboratory started the week of March 20, 2006, and is in progress. This is the annual audit of the national laboratories and the scope covers all QARD and Augmented Quality Assurance Program (AQAP) activities. The annual audit of LLNL is being moved from April 17, 2006, to May 2006. The scope of the audit is all QARD and AQAP activities.

Mr. Ulshafer said that the Lead Lab concept was incorporated into Revision 17 of the QARD, and is being reviewed. He also stated that OQA is looking at how and when to incorporate the new DOE organization.

Mr. Ted Fiegenbaum (BSC) discussed several quality aspects of the BSC activities. He noted that the focus of the activities is on strengthening the new process and to evaluate where improvements can have the most impact.

Action Item Status

The status of open action items was discussed. DOE and NRC agreed to keep open previous action items MM 0402-C1 and MM 0506-01, MM 0509-01, and MM 0512-01. There were no new actions resulted from this meeting.

Status of the action items is summarized in the attached table following the signature page.

Public Comments

Ms. Judy Triechel, Nevada Nuclear Waste Task Force, asked if there would be a technical exchange on CD-1 and whether CD-1 would include different phases or whether everything would be designed and built together. Mr. Harrington responded that the design approach is under consideration.

Mr. Steve Frishman, State of Nevada, asked about the relationship between the DOE quality assurance program and the quality assurance programs at various national laboratories performing work for the Project and if SNL as the Lead Lab has the capability to review other QA programs. DOE responded that the laboratories and contractors performing work are required to have and maintain a QA program and that DOE performs checks and inspections of these programs in accordance with the QARD requirements.

Closing Remarks

Mr. Strosnider provided closing remarks for the NRC. First, he mentioned that, regarding quality assurance, the NRC expects DOE to submit a high-quality application that would include qualified data, analyses, and models that will withstand scrutiny. NRC staff will continue to observe activities at DOE and its contractors and subcontractors. NRC staff will support the special Management Meeting on DOE's Corrective Action Program improvement plan late in May or early June 2006 and will be interested in how DOE will measure effectiveness, including trending, throughout the organization.

Second, Mr. Strosnider stated that future interactions with NRC staff are extremely important for DOE to develop a clear understanding of the requirements and level of detail necessary to develop a high quality LA. DOE identified many technical topics during its presentations, including Heating-Ventilation-Air-Conditioning and Seismic Analysis, and NRC staff is ready to support technical exchanges in those areas. DOE is encouraged to schedule these technical exchanges near term and be ready to work through specific examples to develop a clear understanding of the level of design detail necessary. Mr. Strosnider said the KTI process is a very effective tool to come to agreement and understanding on technical matters. He suggested that DOE include a review of KTIs to identify those that are new, open, or need DOE action.

Third, Mr. Strosnider commented on transportation and transportation packaging. NRC staff looks forward to discussions on the TAD packaging to understand DOE's integrated approach to surface facility operation, design, and disposal performance criteria. NRC staff also is interested in understanding any requirements that would impact other NRC licensed facilities.

Lastly, Mr. Strosnider mentioned that the NRC staff needs additional discussion to understand DOE's Critical Design process. The LA must contain sufficient information to support DOE's safety case so DOE and NRC need to be aligned as to what level of detail must be in the LA. Mr. Strosnider stated that NRC's mission includes safety, security, and the protection of the environment. NRC promotes openness so all stakeholders have the opportunity to observe the process between NRC and DOE.

In conclusion, Mr. Virgilio observed that many of the DOE managers attending the meeting are new and that knowledge management is vital. He recommended that DOE not forget what they have done in the past. For instance, at the NRC, new people bring new ideas to the agency but NRC management is looking at ways to keep key concepts and processes to maintain continuity and not lose sight of past work. Mr. Virgilio suggested that DOE do the same.

Mr. Golan agreed with Mr. Virgilio, noting that the program is in a period of great changes and risk management is important. DOE is focusing on cultural change, putting quality first, and implementing a clean canister approach. Mr. Golan recommended DOE interactions with the NRC early and often.

C. W Reamer Date: 4/29/06

C. William Reamer, Director
Division of High Level Waste Repository Safety
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission

April V. Gil Date: 4/20/2006

Mark H. Williams, Director
Office of License Application and Strategy
Office of Repository Development
U.S. Department of Energy

Consolidated Action Items
From the NRC/DOE Quarterly Management Meetings
(March 21, 2005)

Item No.	Description	Status
MM 0402-C1	DOE will identify any to-be-verified (TBV) data in the LA that needs to be qualified (if any) at the time of LA submittal (Commitment).	Open. This item will remain open until LA submittal.
MM 0506-01	DOE and NRC to determine the dates for the list of proposed technical interactions discussed during the June 6, 2005 Management Meeting.	Open. This item will remain open as a continuing action and will report progress at future management meetings.
MM 0509-01	DOE/NRC to hold technical exchange after the DOE report addressing the USGS alleged falsification of documents has been released by the Secretary.	Open. The report has been issued and a technical exchange will be scheduled contingent on staff's availability.
MM 0512-01	DOE to provide to NRC a schedule for submittal of planned additional information needs for the remaining KTIs under review by the NRC.	Open.

Note: The Quarterly Management Meeting action items are designated as "MM yymm-nn" where yy is the two digit year, mm is a two digit month and nn is a two digit action item number from that meeting.